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TWO HUNDRED AND NINETY-EIGHTH MEETING,
NOVEMBER 2, 1916.

The 298th regular meeting of the Society was entertained by Dr. A. L. Quaintance at the Saengerbund Hall, November 2, 1916. There were present Messrs. Abbott, Baker, Barber, Böving, Busck, Caudell, Craighead, Ely, Fisher, Gahan, Greene, Heinrich, Hyslop, Isely, Kotinsky, McIndoo, Middleton, Paine, Quaintance, Rohwer, Sanford, Sasseer, Schwarz, Snyder, Walton, Webb, Wood, and Yothers, members, and T. G. Carnochan, R. M. Fouts, J. R. Horton, Philip Garman, Delmar Webb, and W. W. Yothers, visitors.

The following program was presented.

A NEW GENUS (*PERISSARTHIRON*) OF ELATERIDAE AND A
REVISION OF THE AMERICAN ELATERIDAE OF THE GENUS
PYROPHORUS, WITH DESCRIPTIONS OF NEW SPECIES.

BY J. A. HYSLOP,

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Perissarthron gen. nov.

(Plate I)

Frontal margin of the head obsolete above insertion of the labrum (fig. *a*), front concave, labrum moderately broad; mouth directed forward and downward; mandibles cleft at tip; maxillary palpi narrowly securiform; antennae (fig. *b*), 12 jointed, joints 3 and 4 equal in length; prothorax wider than long, prosternal sutures nearly straight, lateral margins broadly flattened; posterior coxae (fig. *c*) complete, strongly widened inwardly, but without abrupt angle; tarsi simple, bearing heavy brushes of pile on under surface of joints, tarsal claws (fig. *d*) simple.

This genus is erected to receive the remarkable species *Corymbites trapezium* of Leconte¹ (Plate I, fig. *h*), from Texas, of which *Corymbites trapezicollis* Schw.² is a synonym. Schwarz refers this species to the genus *Ludius*,³ so the synonymy will stand as follows:

Perissarthron trapezium (Lec.) Hyslop

Corymbites trapezium Lec.

Corymbites trapezicollis Schw.

Ludius trapezium (Lec.) Schw.

Ludius trapezicollis (Schw.) Schw.

This species has generally been described as having eleven joints with the 11th strongly constricted or appendiculate. This is an error, the so-called constriction really being a distinct segmentation (fig. *f*), as can easily be demonstrated with a relaxed specimen as the 12th moves freely on the true 11th segment and cannot be compared with the condition of constriction found in certain *Melanactes* and several species of true *Ludius* (*Corymbites*).

Through the kindness of Dr. Skinner of the Philadelphia Academy of Natural Sciences, I have had the opportunity of examining the female of this species in the Horn collection. It differs from the male in the pronotum being as wide at the middle as at the posterior angles, with the sides strongly arcuate. The antennae when directed backward do not attain the posterior angles, consequently joints 4 to 11 are materially shorter in comparison to their diameter than in the male.

The genus will probably fall into the tribe *Ludiini* but its position cannot be definitely ascertained until the larva has been described.

Pyrophorus Illiger.

This genus was established by Illiger in 1809⁴ to include those species of the Elateridae having luminous vesicles on the pronotum. This character serves to identify the genus, which is confined to tropical America, both North and South, and the West Indies, with the exception of a few forms which agree with this genus in all characters, save the luminous spots. But one species has been recognized from North America north of Mex-

¹ Proc. Acad. Nat. Sc. Philad., Vol. 18, p. 392, Dec., 1866.

² Deut. Ent. Zeit., 1903.

³ Gen. Ins.

⁴ Mag. d. Gesellsch. Nat. Freund. Berl. I. p. 141 1809.

ico, *Pyrophorus physoderus* of Germar described in 1841,¹ from Alabama.

In examining the material in the National Museum and in the private collections of Messrs. W. M. Mann and Chas. Schaeffer, I have found three more species.

The four North American species can be separated easily upon external characters, but the most conclusive characters for their determinations are in the male genitalia. The following table will serve to differentiate the four species now recognized from North America:

- A. Conspicuous tubercle on base of the pronotum in front of the scutellum.
 - a. Tubercle conical.....*texanus* sp. nov.
 - b. Tubercle laterally compressed.....*arizonicus* sp. nov.
- AA. No pronotal tubercle in front of the scutellum.
 - a. Antennae of the male long (when directed backward extending 3 joints beyond the posterior angles). Pronotum usually with decided impressions.....*physoderus* Germar.
 - b. Antennae of male but one joint longer than the pronotum. No decided impressions on the pronotum. *atlanticus* sp. nov.

In the North American species the females agree with the males, except that they are usually larger and have the pronotum much broader with its side margins more rounded and the disk much more globose. In all our North American species the antennae of the females are shorter than the pronotum, while in the males they are as long as or longer than the pronotum. Small females occasionally occur and size cannot be considered as a character of much value. I have not examined the female of the *physoderus* of Germar. In deciding which of the four species from this country is the true *physoderus* of Germar, the following facts must be taken into consideration: Germar described the species from Alabama. None of the specimens which I have had opportunity to examine were collected in Alabama, though the series which I consider as *physoderus* were collected on the Cedar Keys, which are on the upper inner gulf coast of Florida not very far removed from that part of Alabama which reaches the Gulf. Germar distinctly says, in his preliminary analysis of this species, that the antennae are less than one-half the length of the body, while in his further discussion of the species, he says that they are somewhat longer than the prothorax. The species recognized as *physoderus* in the collections examined, was collected from the east coast of Florida. It agrees with Germar's

¹ Zeitsch. f. d. Entom. III, p. 36, 1841.

description in being dark brown. However, the antennae in this species are very slightly longer than the pronotum and are certainly nowhere near half the length of the body. On the other hand, the west coast species which I consider the true *physoderus* of Germar is not as dark brown as the east coast

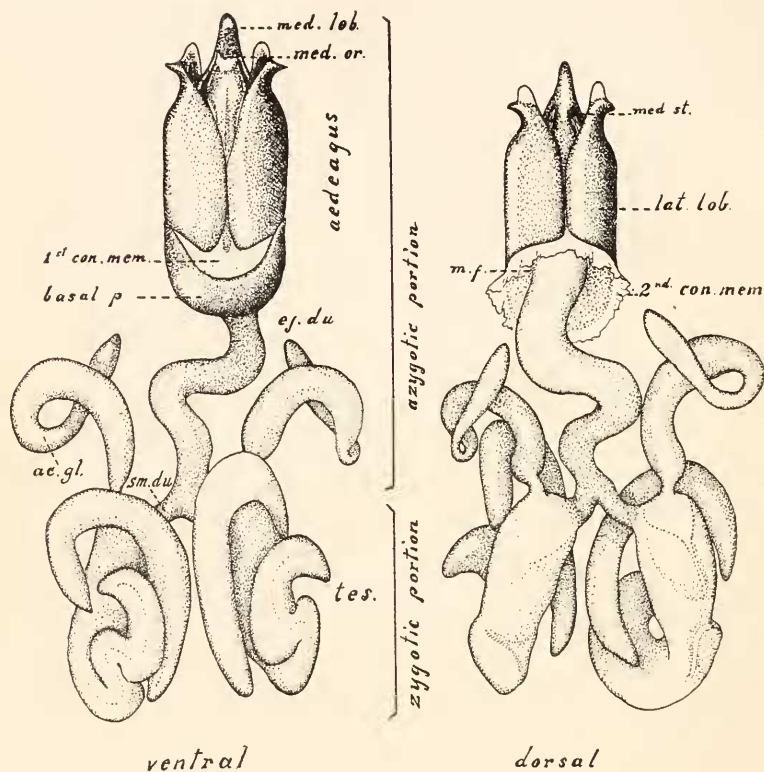


Fig. 1. Dorsal and ventral aspects of the male genital apparatus of *Pyrophorus*.

species and the antennae of the male are equal to fully one-half the total length of the body.

The east coast species, which I have named *Pyrophorus atlanticus*, is entirely lacking the impressed grooves on the disk of the pronotum, which Germar specifically mentions and which are very pronounced in the species from the Cedar Keys. Both of these Florida species lack the basal tubercle on the pronotum.

on its ventral surface. The sides are membranous and the ventral surface is more or less chitinized. The lateral lobes articulate freely on the basal piece and are connected therewith by the first connective membrane (*1st con. mem.*). The whole aedeagus is connected with the body wall by the second connective membrane (*2nd con. mem.*). The lateral lobes often bear outwardly directed spines and anterior flabellae. The form, number of spines and comparative length and shape of these plates are remarkably constant in all the specimens in the various species of Elateridae examined by the writer and are of decided specific value. The terminology used in this paper is that used by Sharp and Muir¹ in their excellent Memoire on the male genital tube.

The following table will serve to differentiate the four species now recorded from North America as based upon the male genital characters:

- A. Lateral lobes of genitalia with a median, outwardly directed spine in addition to the terminal spine (Plate II, fig. *g*).
arizonicus sp. nov.
- AA. Lateral lobes without median spine.
- a. Sides of the lateral lobes parallel, suddenly constricted near outer fourth; median lobe without ridged depression on upper surface (Plate II, fig. *f*).....*texanus* sp. nov.
- b. Lateral lobes gradually attenuated from base to tip, median lobe with prominently margined dorsal depression.
1. Median lobe narrow as tip of lateral lobe (Plate II, figs. *c, d, e*).....*atlanticus* sp. nov.
2. Median lobe twice as broad as tip of lateral lobe (Plate II, figs. *a* and *b*).....*physoderus* Germ.

Pyrophorus physoderus Germ.²

(Plate III, fig. *c*)

"Piceus, fusco-pubescent, thorace suboblongo, convexo, lateribus antrosum deflexo, maculis vesicularibus angularibus, antennis corporis dimidio brevioribus, elytris punctato-striatis, apice muticis. Habitat in Alabama Americae borealis (Gory.)."

"Dem *P. pyralis* verwandt, aber kleiner, dunkler braun, das Halsschild an den Seiten nach vorn tiefer herabgebogen, die Fühler kürzer und die Deckshilde an der Spitze ungedornt."

¹ The Comp. Anat. of the Male Gen. Tube in Coleo. Trans. Ent. Soc. Lond. Part III, Dec. 24, 1912.

² Zeit. f. d. Ent. III, p. 36, 1841.

"7-8 Lin. lang, $2\frac{1}{4}$ Lin. breit, dunkelbraun, mit niederliegenden, graugelben Härchen ziemlich dicht bekleidet, Fühler und Beine heller braun. Kopf ziemlich gross, Stirn etwas länger als breit, wenig eingedrückt, grob punktirt. Fühler etwas länger als das Halsschild, deutlich gesägt, das dritte Glied halb so lang wie das vierte. Halsschild wenig länger als breit, in der Mitte ein halbmal breiter wie der Kopf, der Länge nach gewölbt, die Seiten von der Mitte weg nach vorn niedergebogen und stark nach den Vorderecken hin gerundet, Hinterdornen ast gerade. Im Mittelfelde zwei mehr oder minder tief eingedrückte Grübchen. Die Oberfläche dicht punktirt, mit Spuren einer glatten, etwas erhabenen Mittellinie. Leuchtflecke vor den Hinterdornen, eirund, schief, gleich weit vom Seitenrande wie vom Hinterrande entfernt, am Rande punktirt. Auf der Unterseite ein dreieckiger, gelber, durchscheinender Fleck im Hinterwinkel. Schildchen länglich, an der Wurzel abgestutzt.

"Deckschilde gewölbt, punktirt-gestreift, die Zwischenräume dicht punktirt, die Seiten von der Mitte nach der gerundeten Spitze hin allmählich verengt."

The sides of the pronotum are convergent from the base, practically straight and suddenly narrowed at the apex. The posterior angles are acute and divergent. No pronotal tubercle in front of the scutellum. The disk of the pronotum usually bears four elongate impressions, two near the middle of the disk and two near the base. The luminous vesicles are as near the lateral border as the posterior border of the posterior angles and are distinctly visible from below. The color is reddish brown and the vestiture is grayish yellow and moderately sparse. The elytra are parallel to the posterior third and are not mucronate at the tip. Joint 3 of the antenna is longer than 2, joint 11 is strongly apenticulate, giving the impression of a 12th joint. In the male the antennae (text fig. 2 *b*) extend 3 joints beyond the posterior angles of the pronotum when directed backward. Antennal joint 3 is not serrate and is decidedly narrower and more like joint 2 than joint 4. Joints 4, 5 and 6 with sides subparallel, twice as long as broad and slightly serrate.

Aedeagus with median lobe very broad rounded at tip, broadly spatulate-concave above at tip, median orifice less than one-half width of median lobe at that point from tip. Lateral lobes attenuate from base to tip, distal spine declivious, compressed. No lateral spine.

Male, 15 to 20 mm. long, 3 to 6 mm. wide.

Specimens examined: 1 ♂ Florida (Chas. Schaeffer), 6 ♂♂ Cedar Keys (Hubbard & Schwarz).

Pyrophorus arizonicus sp. nov.¹(Plate III, figs. *f, g*.)

Sides of the prothorax parallel, strongly rounded anteriorly; posterior angles acute, divergent, carinate with laterally compressed strong tubercle on the pronotum immediately in front of the scutellum; pronotum bearing a pair of longitudinal impressions near the base. Luminous vesicles as near the lateral border as the posterior border of the posterior angles and distinctly visible from below. Color dark reddish brown, vestiture not modifying the color of the integument. Elytra attenuate beyond the middle, the tip not mucronate. Antennal joint 3 longer than 2 and distinctly shorter and narrower than 4; joints 4, 5 and 6 strongly serrate, not twice as long as broad; joint 11 constricted at outer third (text fig. 2 *d*).

Aedeagus with lateral lobes strongly narrowed at outer third, bearing stout spine on outer side beyond middle. Lateral and distal spines strongly deflexed, lateral lobes moderately densely covered with stout erect hairs beyond lateral spine. Medial lobe strongly narrowed. On outer third narrower than end of lateral lobes, end very slender, concave above; lower chitinized plate of median lobe broader than upper plate, visible from above. Median lobe not deflexed at tip. Median orifice more than four times diameter of lobe from tip.

Male, 22 mm. long, 6 mm. wide.

Female, 25 mm. long, 7 mm. wide.

Described from 3 ♂♂, 1 ♀ as follows: 1 ♂ (type) Patagonia Mts., Ariz. (U. S. N. M.), 1 ♀ (allotype) Arizona (Chas. Schaeffer), (paratypes) 1 ♂ Ramsay Canyon, Huachuca Mts., Ariz. (W. M. Mann), 1 ♂ Arizona (Chas. Schaeffer).

Type:—Cat. No. 20462, U. S. N. M.

Pyrophorus atlanticus sp. nov.(Plate III, figs. *d, e*.)

Sides of the prothorax parallel to beyond the middle, then broadly rounded to the apex. The posterior angles acute and divergent, pronotum slightly swollen near the base of the scutellum but not bearing a tubercle, pronotum without discal impressions. The luminous vesicles as near the lateral border as the posterior border of the posterior angles and distinctly visible from below. Color, very dark brown, vestiture short and rather sparse, not modifying the color of the integument. Elytra

¹ Since preparing this manuscript two more specimens of *P. arizonicus* have been added to the National Museum collection. These were collected on Indian Creek in the Animas Mts., New Mexico, July 23, 1917, by Dr. C. H. T. Townsend.

parallel to the middle, then attenuate to the tips, not mucronate at the tip. Antennae with joint 3 longer than 2 and distinctly shorter and narrower than 4, joints 4, 5 and 6 not twice as long as broad and strongly serrate, joint 11 simply constricted a little beyond the middle (text fig. 2 *c*).

Aedeagus with median lobe attenuate at tip, spatulate concave above, distance between margins of spatula, equal to diameter of lateral lobes at that point. Median orifice the diameter of median lobe, at that point, from tip. Lateral lobes attenuate from base, distal spine small declivious. No lateral spine.

Male, 12 to 17 mm. long, 3.5 mm. to 5 mm. wide.

Female, 18 mm. long, 5.5 mm. wide.

Described from 21 ♂♂ and 2 ♀♀ as follows: Type 1 ♂ Enterprise, Fla. (Hubbard & Schwarz), allotype 1 ♀ Enterprise, Fla. (Hubbard & Schwarz), paratypes 9 ♂♂ Enterprise, Fla. (Hubbard & Schwarz), 2 ♂♂ Crescent City, Fla. (Hubbard & Schwarz), 1 ♂ Eustis, Fla. (Hubbard & Schwarz), 1 ♂ North Smyrna, Fla. (Hubbard & Schwarz), 1 ♂ Welham, Fla. (S. S. White), 1 ♂ Samford, Fla. (C. V. Riley), 1 ♂ Indian River, Fla. (Hubbard & Schwarz), 1 ♂ Florida (Hubbard & Schwarz), 1 ♀, 3 ♂♂ Florida (Chas. Schaeffer).

Type locality:—Enterprise, Fla.

Type:—Cat. No. 20460, U. S. N. M.

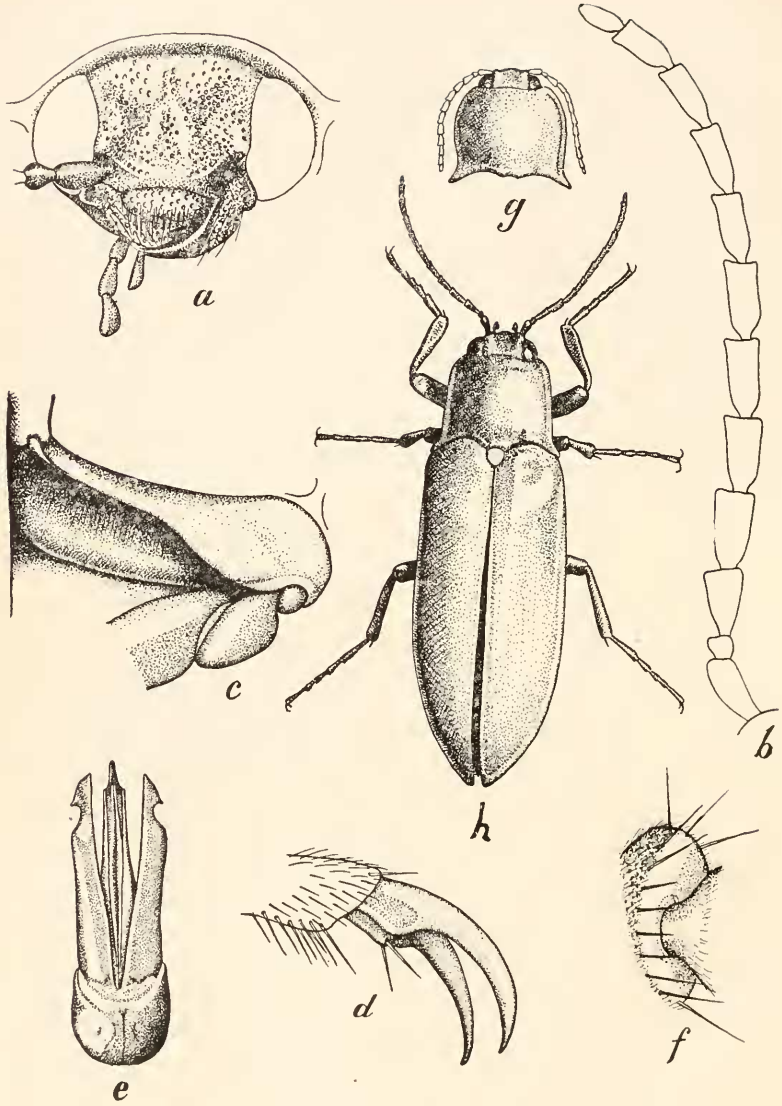
Pyrophorus texanus, sp. nov.

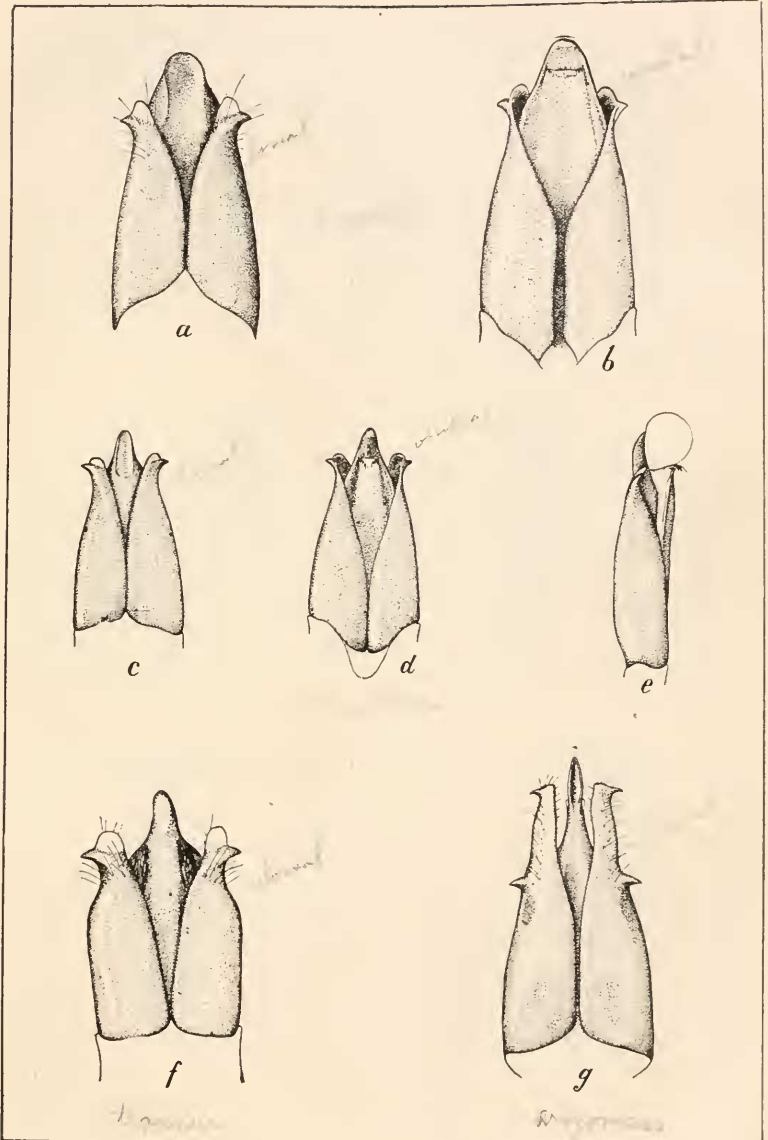
(Plate III, figs. *a, b*.)

Sides of the prothorax convergent from the base, slightly rounded, posterior angles acute and divergent, prominent conical tubercle on the base of the pronotum in front of the scutellum, the pronotum some times bearing impressions and some times without them. The luminous vesicles as near the lateral border as the posterior border of the posterior angles and distinctly visible from below. Color from pale reddish to almost black, the vestiture dense, grayish yellow and quite long. The elytra attenuate posteriorly and not mucronate. Antennal joint 3 longer than 2, and distinctly narrower and shorter than 4; joints 4, 5 and 6 distinctly serrate and not twice as long as broad; joint 11 simply constricted at outer third. Antennae of the male (text fig. 2 *a*) little, if any, longer than the pronotum.

Aedeagus with median lobe strongly narrowed at tip, declivious, convex above, median struts visible when lateral lobes are closed. Median orifice twice diameter of median lobe, at that point, from tip. Lateral lobes parallel from base to outer third then suddenly narrowed to tip. Distal spine strongly declivious; no lateral spine.

Female and male, 14 to 19 mm. long, 4 to 6 mm. wide.





Described from 43 ♂♂ and 3 ♀♀ as follows: The type 1 ♂ Brownsville, Tex. (H. S. Barber), allotype 1 ♀ Brownsville, Tex. (C. H. Townsend), paratypes 2 ♂♂ and 2 ♀♀ Victoria, Tex. (J. D. Mitchell), 1 ♂ New Braunfels, Tex. (Chas. Schaeffer), 7 ♂♂ Brownsville, Tex. (Chas. Schaeffer), 4 ♂♂ Brownsville Tex. (Townsend), 2 ♂♂ Brownsville, Tex. (H. S. Barber), 1 ♂ Columbus, Tex. (E. A. Schwarz), 4 ♂♂ Refugio, Tex. (coll. unknown), 1 ♂ San Diego, Tex. (E. A. Schwarz), 2 ♂♂ Dallas, Tex. (J. Bowl), 1 ♂ Laredo, Tex. (Hubbard & Schwarz), 1 ♂ Laredo, Tex. (A. W. Morrill), 1 ♂ San Antonio, Tex. (Hubbard & Schwarz), 3 ♂♂ Texas (John B. Smith), 5 ♂♂ Texas (C. V. Riley), 6 ♂♂ Texas (coll. unknown), 1 ♂ Texas (Chas. Schaeffer), 1 ♂ Arizona (Chas. Schaeffer).

Type locality:—Brownsville, Tex.

Type:—Cat. No. 20461, U. S. N. M.

EXPLANATION OF PLATES.

Plate I. *Perissarthron trapezium*. *a*, Anterior aspect of head of ♂; *b*, right antenna of ♂; *c*, right coxa of ♂; *d*, posterior tarsal claws of ♂; *e*, aedeagus; *f*, joint between 11th and 12th antennal segments of ♂; *g*, prothorax and head of ♀; *h*, adult ♂.

Plate II. Male genitalia of *Pyrophorus*. *a*, dorsum, *b*, ventron of *Pyrophorus physoderus*; *c*, dorsum, *d*, ventron, *e*, lateral aspect of *Pyrophorus atlanticus*; *f*, dorsum of *P. texanus*, *g*, dorsum of *P. arizonicus*.

Plate III. Adult *Pyrophorus*. *P. texanus*; *a*, male, *b*, female; *P. physoderus*, *c*, male; *P. atlanticus*, *d*, male, *e*, female; *P. arizonicus*, *f*, male, *g*, female.

NOTES AND DESCRIPTIONS OF SOME ORCHID WEEVILS.

BY H. S. BARBER,
Bureau of Entomology.

The several notes on Orchid injuring insects that have appeared recently contain references to species not before reported as such and from the study of certain species in the weevil genera *Cholus*, *Acythopeus*, and *Eucactophagus*, it appears to the writer from the specimens and literature before him that certain corrections in the application of the names are necessary. Seven species are treated in this paper three of which are described as new.

Cholus Germar 1824.

Mr. Champion's description in the September number of the Entomologist's Monthly Magazine, of the large black and white orchid weevil, *Cholus cattleyae*, found by Mr. H. B. Weiss in or-